

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

REIN TECH, INC.,

Plaintiff,

v.

MUELLER SYSTEMS, LLC

Defendant.

C.A. No. 1:18-cv-01683-MN

**DEFENDANT'S LETTER MOTION FOR INVOLUNTARY DISMISSAL WITH
PREJUDICE DUE TO PLAINTIFF'S CONTINUED VIOLATION OF
THE PROTECTIVE ORDER AND WILLFUL VIOLATION OF
THE COURT'S SANCTIONS ORDER**

Of Counsel:

BUCHALTER APC
Coby S. Nixon (*pro hac vice*)
Seth K. Trimble (*pro hac vice*)
Cory Mull (*pro hac vice*)
3475 Piedmont Road NE, Suite 1100
Atlanta, GA 30305
(404) 832-7530
cnixon@buchalter.com
strimble@buchalter.com
cmull@buchalter.com

MORRIS JAMES LLP
Kenneth L. Dorsney (#3726)
Cortlan S. Hitch (#6720)
3205 Avenue North Boulevard, Suite 100
Wilmington, DE 19803
(302) 888-6800
kdorsney@morrisjames.com
chitch@morrisjames.com

Counsel for Defendant Mueller Systems, LLC

Dated: October 30, 2025

The Honorable Maryellen Noreika

October 30, 2025

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Dear Judge Noreika,

Defendant Mueller Systems, LLC (“Mueller”) respectfully moves, pursuant to Fed. R. Civ. P. 41(b) and D. Del. LR 1.3, for involuntary dismissal of Plaintiff Rein Tech, Inc.’s (“Rein Tech’s”) claims (in advance of the upcoming trial scheduled to begin on November 12, 2025) and for other sanctions due to Rein Tech’s continued, willful violation of the Protective Order—specifically, the patent prosecution bar at paragraph 11 (D.I. 32)—and willful violation of the Court’s August 1, 2025, Order granting Mueller’s Motion for Sanctions—specifically, the Court’s directive that “Mr. Klicpera, having had access to attorneys’ eyes only information, is also subject to the prosecution bar in paragraph 11, and he may not participate in prosecution as set forth in the protective order” (D.I. 196, 9/1/2025 Hearing Tr., at 46:18-21).

Counsel for the parties, including Delaware counsel, met and conferred by telephone regarding these matters on October 29, 2025. Mueller’s counsel have made reasonable efforts to reach agreement with Rein Tech’s counsel on the matters provided in this motion. Plaintiff is opposed to Mueller’s motion.

A. Rein Tech’s Continued Violation of the Patent Prosecution Bar.

It has come to Mueller’s attention that on October 27, 2025, Rein Tech’s President, Mr. Klicpera, filed a Response (attached hereto as Exhibit A) to a Final Office Action in U.S. Patent Appl. No. 17/981,454 (the “’454 Application”), a patent application filed by Mr. Klicpera on November 6, 2022, and titled “Water Meter and Leak Detection System.” The Response, which is signed by Mr. Klicpera (a registered patent attorney), includes 21 pages of substantive amendments to the pending claims (all drawn to a “water meter system” in the same field of invention as the remaining asserted patent in this case, U.S. Patent No. 11,549,837 (“the ’837 patent”)), 6 pages of substantive amendments to the specification, and 4 pages of argument in support of patentability of the amended claims. (Ex. A.) Two days before filing the Response, Mr. Klicpera filed a Power of Attorney (attached hereto as Exhibit B) to change the correspondence address for the ’454 Application to that of a third-party corporation, Patent Technology, Inc., in an apparent attempt to hide the fact that Mr. Klicpera is the attorney of record prosecuting the application.

Mr. Klicpera’s conduct violates the Protective Order, which provides that any person “who obtains, receives, has access to, or otherwise learns, in whole or in part,” the other party’s material designated “RESTRICTED – ATTORNEYS’ EYES ONLY” (“AEO material”) “shall not prepare, prosecute, supervise, or assist in the preparation or Prosecution of any patent application pertaining to the Field of Invention of the Patents-in-Suit,” where “‘Prosecution’ includes without limitation original prosecution, reissue, reexamination, certificate of correction, inter partes review, covered business method review, or other procedure that may affect the scope of patent claims.” (D.I. 32 ¶ 11.) Such conduct also completely disregards the Court’s August 1, 2025, order sanctioning Rein Tech for Mr. Klicpera’s “multiple violations of provisions of the protective order” (D.I. 196 at 43:4-6), including Mr. Klicpera’s unauthorized access to Mueller’s AEO material and participation in patent prosecution in violation of paragraph 11 (*id.* at 43:7-44:3), as well as “other potential violations, including by giving access to confidential information to Mr. Klicpera’s wife and an attorney not of record who Mr. Klicpera has hired for research” (*id.* at 44:14-18).

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B. Mueller's Requested Sanctions.

Mueller respectfully seeks case-terminating sanctions against Rein Tech for its repeated violations of the Protective Order. Rein Tech should not be permitted to proceed to trial as currently scheduled for November 12-14, 2025. In addition, Mueller requests an award of its fees and costs incurred since the Court's August 1, 2025, Order in preparing its case for trial, given that Rein Tech apparently had no intention of complying with the patent prosecution bar.

A defendant may move to dismiss the claims against it where "the plaintiff fails to prosecute or to comply with [the Federal Rules of Civil Procedure] or a court order." Fed. R. Civ. P. 41(b). Federal courts often treat noncompliance with court orders as a failure to prosecute because those two grounds often "overlap." 9 Wright & Miller's Federal Practice & Procedure § 2369 (4th ed.). A district court should consider six factors when determining whether to dismiss a case under Rule 41(b): (1) the extent of the party's personal responsibility; (2) the prejudice to the adversary caused by the failure to meet scheduling orders and respond to discovery; (3) a history of dilatoriness; (4) whether the conduct of the party or the attorney was willful or in bad faith; (5) the effectiveness of sanctions other than dismissal, which entails an analysis of alternative sanctions; and (6) the meritoriousness of the claim or defense. *Poulis v. State Farm Fire & Cas. Co.*, 747 F.2d 863, 868 (3d Cir. 1984); *see also Hildebrand v. Allegheny Cty.*, 923 F.3d 128, 132 (3d Cir. 2019). No single Poulis factor is dispositive, and not all of the factors need to be satisfied in order to dismiss a complaint. *In re Asbestos Prods. Liab. Litig. (No. VI)*, 718 F.3d 236, 246 (3d Cir. 2013).

Here, all six of the *Poulis* factors weigh in favor of dismissing Rein Tech's claims with prejudice. *First*, Rein Tech and its President bear personal responsibility for Rein Tech's repeated violations of the Court's orders, including the Protective Order and the Sanctions Order. *See Hildebrand*, 923 F.3d at 133 ("In determining whether dismissal is appropriate, we look to whether the party [as opposed to the party's counsel] bears personal responsibility for the action or inaction which led to the dismissal"). *Second*, Mr. Klicpera's misuse and unauthorized disclosure of Mueller's AEO material has caused ongoing and substantial prejudice to Mueller. *See id.* at 134 ("Prejudice to the adversary is a particularly important factor in the *Poulis* analysis, and evidence of true prejudice bears substantial weight in support of a dismissal").

Third, Mr. Klicpera has shown a history of disregarding the Court's authority and orders. *See D.I. 196* at 47:23-48: ("I have to say that this whole experience has been really disappointing in terms of Plaintiff's attitude towards confidential information, Plaintiff and Plaintiff's counsel desire to rectify the situation and figure out what happened so that I had some confidence that Plaintiff actually cared about the violations, which I still don't."). *Fourth*, Mr. Klicpera's conduct has been willful and in bad faith. *See Hildebrand*, 923 F.3d at 135 ("In evaluating this factor, a court should look for the type of willful or contumacious behavior that can be characterized as flagrant bad faith, such as . . . ignoring admonitions by the court").

Fifth, the Court has already imposed lesser sanctions upon Rein Tech, but those have failed. "[W]here we are confronted by a litigant who will not comply with court orders, lesser sanctions may not be an effective alternative." *Seeley ex rel. Shepard v. Derr*, No. 4:12-cv-917, 2014 WL 1024861, at *4 (M.D. Pa. Mar. 14, 2014) (concluding that because "lesser sanctions have been tried, and have failed, only the sanction of dismissal remains available to the Court"). *Sixth*, as

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Mueller has shown in its pending motions for summary judgment (D.I. 173-176), Rein Tech's infringement claims have no merit. *Hildebrand*, 923 F.3d at 137 ("The standard for determining whether a plaintiff's claims are meritorious is moderate"). Further, Rein Tech has conceded that it is unable to establish infringement. *See* D.I. 204 at 12:11-13 ("If the Plaintiff is not allowed to call anyone as an expert witness in this case, I don't see how we can try it, if that's what your ruling is."); 17:14-21; 28:18-22 (the Court stating, "it does seem like Plaintiff is conceding that based on the record I have in front of me now there is no real issue of infringement."). *See also id.* at 18:24-19:9.

"While dismissal with prejudice is an extreme sanction, it is one rightfully in the district courts' toolbox." *Adlife Mktg. & Commc'ns Co., Inc. v. Karns Prime & Fancy Food, Ltd.*, No. 21-cv-2074, 2023 WL 179840, at *3 (3d Cir. Jan. 13, 2023) (citation modified). Here, the balance of the *Poulis* factors support dismissing Rein Tech's claims with prejudice and allowing Mueller to recover its attorneys' fees and costs that have been wasted in preparing for trial.

Respectfully,

/s/ Kenneth L. Dorsney
Kenneth L. Dorsney (#3726)

cc: All Counsel of Record (via ECF and email)

EXHIBIT A

UNITED STATES
PATENT AND TRADEMARK OFFICEP.O. Box 1450
Alexandria, VA 22313 - 1450
www.uspto.gov

ELECTRONIC ACKNOWLEDGEMENT RECEIPT

APPLICATION #
17/981,454RECEIPT DATE / TIME
10/27/2025 11:39:34 PM Z ETATTORNEY DOCKET #
71002.01

Title of Invention

Water Meter and Leak Detection System

Application Information

APPLICATION TYPE Utility - Nonprovisional Application
under 35 USC 111(a)

PATENT # -

CONFIRMATION # 1349

FILED BY Michael Klicpera

PATENT CENTER # 72928191

FILING DATE 11/06/2022

CUSTOMER # 22509

FIRST NAMED
INVENTOR Michael Edward KlicperaCORRESPONDENCE
ADDRESS -

AUTHORIZED BY -

Documents

TOTAL DOCUMENTS: 2

DOCUMENT	PAGES	DESCRIPTION	SIZE (KB)
Response_Final_Office_Acti on_454_MASTER_DRAFT_2 7Oct2025_image.pdf	46	Request for Continued Examination (RCE)	13067 KB
Warning: This is not a USPTO supplied RCE fillable form. Data in the form cannot be automatically loaded to other USPTO systems.			
sb0030.pdf	3	Amendment Submitted/Entered with Filing of Continued Prosecution Application (CPA)/Request for Continued Examination(RCE)	949 KB

Digest

DOCUMENT**MESSAGE DIGEST(SHA-512)**

Response_Final_Office_Action
_454_MASTER_DRAFT_27Oct
2025_image.pdf

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sb0030.pdf

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E982FCADCE3EE9459D77EA844E747668

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Klicpera)
Serial Number: 17/981,454)
Filed: November 6, 2022) Art Unit
Examiner: Eric S. Von Wald) 2863
For: Water Meter)
Attorney Docket Number: 71002.01)

Mail Stop Amendments

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Sir:

Transmitted herewith is an amendment for entry in the above identified patent application.

✓ Amendment After Final Rejection

27th day of September 2025.

Respectfully submitted,

/Michael E. Klicpera/

Attorney for Applicant
Registration No. 38,044

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Klicpera)
)
Serial Number: 17/981,454)
) Art Unit
Filed: November 6, 2022) 2863
)
Examiner: Eric S. Von Wald)
)
For: Water Meter)
)
)
Attorney Docket Number: 71002.01)

Claim Objections

The Examiner stated that Claim 21 is objected to because of the following informalities: Claim 21, line 25 discloses "a Power over the Ethernet." This is construed as a typographical error. The examiner recommends amending to disclose "a Power over Ethernet." Appropriate correction is required.

Response:

The Applicant has amended claims for the typographical error and believes this is now corrected.

Claim Rejections - 35 USC § 112(a)

The Examiner stated that Claim 24 is rejected under 35 U.S.C. 112(a) or 35 U.S.C. 112 (pre-AIA), first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claim 24 discloses IEEE 803.2bt. Support for an IEEE standard of 802.3bt exists in para. [0069]. Appropriate correction is required.

Claim Rejections - 35 USC § 112(a)

The Examiner stated that Claim 24 is rejected under 35 U.S.C. 112(a) or 35 U.S.C. 112 (pre-AIA), first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claim 24 discloses IEEE 803.2bt Support for an IEEE standard of 802.3bt exists in para. [0069].

Response:

The Applicant has amended claim 24 appropriately for the Examiner's rejection and believes this objection is now corrected.

The Examiner stated Claims 1-22, 24-47 are rejected under 35 U.S.C. 112(b) or 35 U.S.C. 112 (pre-AIA), second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the inventor or a joint inventor (or for applications subject to pre-AIA 35 U.S.C. 112, the applicant), regards as the invention

The Examiner stated that Claim 1 recites the limitation "the EN 13757 standard" in line 39. There is insufficient antecedent basis for this limitation in the claim. For the purposes of the present examination, "an EN 13757 standard" is construed. However, further clarification is required.

Response:

The Applicant has amended claims for the Examiner's limitation objection and believes this objection is now corrected.

The Examiner stated that Claim 1 recites the limitation "the internet of things" in line 45. There is insufficient antecedent basis for this limitation in the claim. For the purposes of the present examination, "an internet of things" is construed. However, further clarification is required.

Response:

The Applicant has amended claims for the Examiner's limitation objection and believes this objection is now corrected.

The Examiner stated that Claim 1 recites the limitation "the initiation" in line 72. There is insufficient antecedent basis for this limitation in the claim. For the purposes of the present examination, "an initiation" is construed. However, further clarification is required.

Response:

The Applicant has amended claims for the Examiner's limitation objection and believes this objection is now corrected.

The Examiner stated that Claim 1 recites the limitation "the sampling rate" in lines 75-76. There is insufficient antecedent basis for this limitation in the claim. For the purposes of the present examination, "a sampling rate" is construed. However, further clarification is required.

Response:

The Applicant has amended claims for the Examiner's limitation objection and believes this objection is now corrected.

The Examiner stated that Claim 1 recites the limitation "the one or more water flow events" in line 79. There is insufficient antecedent basis for this limitation in the claim. For the purposes of the present examination, "one or more water flow events" is construed. However, further clarification is required.

Response:

The Applicant has amended claims for the Examiner's limitation objection and believes this objection is now corrected.

The Examiner stated that Claims 2-9, 13, 42, and 45 are rejected by virtue of their dependence from claim 1.

The Examiner stated that Claim 6 is rejected under 35 U.S.C. 112(b) or 35 U.S.C. 112 (pre-AIA), second paragraph, as being indefinite. Claim 6, line 3 discloses "that at least one." It is unclear if "at least one" is the same "at least one" of claim 1, line 6. For the purposes of the

present examination, "that the at least one" is construed. However, further clarification is required.

Response:

The Applicant has amended claims for the Examiner's limitation objection and believes this objection is now corrected.

The Examiner stated that Claim 9 recites the limitation "receive the information" in line 3. There is insufficient antecedent basis for this limitation in the claim. For the purposes of the present examination, "receive information" is construed. However, further clarification is required.

Response:

The Applicant has amended claims for the Examiner's limitation objection and believes this objection is now corrected.

The Examiner stated that Claim 10 recites the limitation "the EN 13757 standard" in line 40. There is insufficient antecedent basis for this limitation in the claim. For the purposes of the present examination, "an EN 13757 standard" is construed. However, further clarification is required.

Response:

The Applicant has amended claims for the Examiner's limitation objection and believes this objection is now corrected.

The Examiner stated that Claim 10 recites the limitation "the internet of things" in line 46. There is insufficient antecedent basis for this limitation in the claim. For the purposes of the present examination, "an internet of things" is construed. However, further clarification is required.

Response:

The Applicant has amended claims for the Examiner's limitation objection and believes this objection is now corrected.

The Examiner stated that Claim 10 recites the limitation "the collection node" in line 71. There is insufficient antecedent basis for this limitation in the claim. For the purposes of the present examination, "a collection node" is construed. However, further clarification is required.

Response:

The Applicant has amended claims for the Examiner's limitation objection and believes this objection is now corrected.

The Examiner stated that Claims 11-12, 14-20, 44, and 46 are rejected by virtue of their dependence from claim 10.

The Examiner stated that Claim 17 recites the limitation "the one or more wireless transceivers" in lines 5-6. There is insufficient antecedent basis for this limitation in the claim. For the purposes of the present examination, "the one or more wireless communication transceivers" is construed. However, further clarification is required.

Response:

The Applicant has amended claims for the Examiner's limitation objection and believes this objection is now corrected.

The Examiner stated that Claim 17 recites the limitation "the second wireless transceiver" in line 6. There is insufficient antecedent basis for this limitation in the claim. For the purposes of the present examination, "the second wireless communication transceiver" is construed. However, further clarification is required.

Response:

The Applicant has amended claims for the Examiner's limitation objection and believes this objection is now corrected.

The Examiner stated that Claim 17 recites the limitation "the information" in line 7. There is insufficient antecedent basis for this limitation in the claim. For the purposes of the present examination, "receive an information" is construed. However, further clarification is required.

Response:

The Applicant has amended claims for the Examiner's limitation objection and believes this objection is now corrected.

The Examiner stated that Claim 18 recites the limitation "the remote computer system" in line 6. There is insufficient antecedent basis for this limitation in the claim. For the purposes of the present examination, "the remote computer" is construed. However, further clarification is required.

Response:

The Applicant has amended claims for the Examiner's limitation objection and believes this objection is now corrected.

The Examiner stated that Claim 18 is rejected under 35 U.S.C. 112(b) or 35 U.S.C. 112 (pre-AIA), second paragraph, as being indefinite. Claim 18, line 6 discloses "a cloud service company." Claim 10, from which claim 18 depends, discloses in line 85 "a cloud service company." It is unclear if "a cloud service company" of claim 18 is the same "a cloud service company" of claim 10. For the purposes of the present examination, they are construed the same. However, further clarification is required.

Response:

The Applicant has amended claims for the Examiner's limitation objection and believes this objection is now corrected.

The Examiner stated that Claim 18 recites the limitation "the electronic communication device" in lines 6-7. There is insufficient antecedent basis for this limitation in the claim. For the purposes of the present examination, "an electronic communication device" is construed. However, further clarification is required.

Response:

The Applicant has amended claims for the Examiner's limitation objection and believes this objection is now corrected.

The Examiner stated that Claim 19 is rejected under 35 U.S.C. 112(b) or 35 U.S.C. 112 (pre-AIA), second paragraph, as being indefinite. Claim 19, line 3 discloses "that at least one" Claim 10, from which claim 19 depends, discloses in lines 7-8 disclose "at least one." It is unclear if "at least one" of claim 19 is the same "at least one" of claim 10. For the purposes of the present examination, they are construed the same. However, further clarification is required.

Response:

The Applicant has amended claims for the Examiner's limitation objection and believes this objection is now corrected.

The Examiner stated that Claim 20 is rejected under 35 U.S.C. 112(b) or 35 U.S.C. 112 (pre-AIA), second paragraph, as being indefinite. Claim 20, line 3 discloses "that at least one" Claim 10, from which claim 20 depends, discloses in lines 7-8 disclose "at least one." It is unclear if "at least one" of claim 20 is the same "at least one" of claim 10. For the purposes of the present examination, they are construed the same. However, further clarification is required.

Response:

The Applicant has amended claims for the Examiner's limitation objection and believes this objection is now corrected.

The Examiner stated that Claim 21 is rejected under 35 U.S.C. 112(b) or 35 U.S.C. 112 (pre-AIA), second paragraph, as being indefinite. Claim 21, line 6 discloses "at least one." Claim 21, line 16 discloses "at least one." It is unclear if "at least one" of line 16 is the same "at least one" of line 6. For the purposes of the present examination, they are construed the same. However, further clarification is required.

Response:

The Applicant has amended claims for the Examiner's limitation objection and believes this objection is now corrected.

The Examiner stated that Claims 22, 24-41 and 47 are rejected by virtue of their dependence from claim 21.

The Examiner stated that Claim 26 recites the limitation "the internet" in line 7. There is insufficient antecedent basis for this limitation in the claim. For the purposes of the present examination, "an internet" is construed. However, further clarification is required. Claim 27 is rejected by virtue of its dependence from claim 26.

Response:

The Applicant has amended claims for the Examiner's limitation objection and believes this objection is now corrected.

The Examiner stated that Claim 28 recites the limitation "the one or more flow rate sensors" in line 3. There is insufficient antecedent basis for this limitation in the claim. For the purposes of the present examination, "the one or more water flow rate sensors" is construed. However, further clarification is required.

Response:

The Applicant has amended claims for the Examiner's limitation objection and believes this objection is now corrected.

The Examiner stated that Claim 28 recites the limitation "the initiation" in line 4. There is insufficient antecedent basis for this limitation in the claim. For the purposes of the present examination, "an initiation" is construed. However, further clarification is required.

Response:

The Applicant has amended claims for the Examiner's limitation objection and believes this objection is now corrected.

The Examiner stated that Claim 28 recites the limitation "the water flow rate sensor" in line 6. There is insufficient antecedent basis for this limitation in the claim. For the purposes of the present examination, "the one or more water flow rate sensors" is construed. However, further clarification is required.

Response:

The Applicant has amended claims for the Examiner's limitation objection and believes this objection is now corrected.

The Examiner stated that Claim 28 recites the limitation "the sampling rate" in line 7. There is insufficient antecedent basis for this limitation in the claim. For the purposes of the present examination, "a sampling rate" is construed. However, further clarification is required.

Response:

The Applicant has amended claims for the Examiner's limitation objection and believes this objection is now corrected.

The Examiner stated that Claim 28 recites the limitation "the one or more water flow events" in line 11. There is insufficient antecedent basis for this limitation in the claim. For the purposes of the present examination, "one or more water flow events" is construed. However, further clarification is required.

Response:

The Applicant has amended claims for the Examiner's limitation objection and believes this objection is now corrected.

The Examiner stated that Claim 34 recites the limitation "the temperature data" in line 5. There is insufficient antecedent basis for this limitation in the claim. For the purposes of the present examination, "temperature data" is construed. However, further clarification is required.

Response:

The Applicant has amended claims for the Examiner's limitation objection and believes this objection is now corrected.

The Examiner stated that Claim 34 recites the limitation "the temperature" in lines 5-6. There is insufficient antecedent basis for this limitation in the claim. For the purposes of the present examination, "a temperature" is construed. However, further clarification is required.

Response:

The Applicant has amended claims for the Examiner's limitation objection and believes this objection is now corrected.

The Examiner stated that Claim 34 recites the limitation "the water" in lines 13-14. There is insufficient antecedent basis for this limitation in the claim. For the purposes of the present examination, "water" is construed. However, further clarification is required.

Response:

The Applicant has amended claims for the Examiner's limitation objection and believes this objection is now corrected.

The Examiner stated that Claim 36 is rejected under 35 U.S.C. 112(b) or 35 U.S.C. 112 (pre-AIA), second paragraph, as being indefinite. Claim 36, line 3 discloses "at least one." Claim 21, from which claim 36 discloses on line 6 discloses "at least one." It is unclear if "at least one" of claim 36 is the same "at least one" of claim 21. For the purposes of the present examination, they are construed the same. However, further clarification is required.

Response:

The Applicant has amended claims for the Examiner's limitation objection and believes this objection is now corrected.

The Examiner stated that Claim 36 recites the limitation "the leak condition" in lines 7-8. There is insufficient antecedent basis for this limitation in the claim. For the purposes of the present examination, "a leak condition" is construed. However, further clarification is required.

Response:

The Applicant has amended claims for the Examiner's limitation objection and believes this objection is now corrected.

The Examiner stated that Claim 37 is rejected under 35 U.S.C. 112(b) or 35 U.S.C. 112 (pre-AIA), second paragraph, as being indefinite. Claim 37, line 2 discloses "at least one." Claim 21, from which claim 37 depends, discloses on line 6 discloses "at least one." It is unclear if "at least one" of claim 37 is the same "at least one" of claim 21. For the purposes of the present examination, they are construed the same. However, further clarification is required.

Response:

The Applicant has amended claims for the Examiner's limitation objection and believes this objection is now corrected.

The Examiner stated that Claim 37 recites the limitation "the signal or command" in line 5. There is insufficient antecedent basis for this limitation in the claim. For the purposes of the present examination, "a signal or command" is construed. However, further clarification is required.

Response:

The Applicant has amended claims for the Examiner's limitation objection and believes this objection is now corrected.

The Examiner stated that Claim 39 recites the limitation "the information" in line 5. There is insufficient antecedent basis for this limitation in the claim. For the purposes of the present examination, "an information" is construed. However, further clarification is required.

Response:

The Applicant has amended claims for the Examiner's limitation objection and believes this objection is now corrected.

The Examiner stated that Claim 39 recites the limitation "the signal or command" in line 5. There is insufficient antecedent basis for this limitation in the claim. For the purposes of the present examination, "a signal or command" is construed. However, further clarification is required.

Response:

The Applicant has amended claims for the Examiner's limitation objection and believes this objection is now corrected.

The Examiner stated that Claim 40 is rejected under 35 U.S.C. 112(b) or 35 U.S.C. 112 (pre-AIA), second paragraph, as being indefinite. Claim 40, line 7 discloses "at least one." Claim 21, from which claim 40 depends, discloses on line 6 discloses "at least one." It is unclear if "at

least one" of claim 40 is the same "at least one" of claim 21. For the purposes of the present examination, they are construed the same. However, further clarification is required.

Response:

The Applicant has amended claims for the Examiner's limitation objection and believes this objection is now corrected.

The Examiner stated that Claim 41 is rejected under 35 U.S.C. 112(b) or 35 U.S.C. 112 (pre-AIA), second paragraph, as being indefinite. Claim 41, line 2 discloses "at least one." Claim 21, from which claim 41 depends, discloses on line 6 discloses "at least one." It is unclear if "at least one" of claim 41 is the same "at least one" of claim 21. For the purposes of the present examination, they are construed the same. However, further clarification is required.

Response:

The Applicant has amended claims for the Examiner's limitation objection and believes this objection is now corrected.

The Examiner stated that Claim 42 is rejected under 35 U.S.C. 112(b) or 35 U.S.C. 112 (pre-AIA), second paragraph, as being indefinite. Claim 42, line 13 discloses "at least one." Claim 1, from which claim 42 depends, discloses on line 6 discloses "at least one." It is unclear if "at least one" of claim 42 is the same "at least one" of claim 1. For the purposes of the present examination, they are construed the same. However, further clarification is required.

Response:

The Applicant has amended claims for the Examiner's limitation objection and believes this objection is now corrected.

The Examiner stated that Claim 42 recites the limitation "the temperature" in lines 15-16. There is insufficient antecedent basis for this limitation in the claim. For the purposes of the present examination, "a temperature" is construed. However, further clarification is required.

Response:

The Applicant has amended claims for the Examiner's limitation objection and believes this objection is now corrected.

The Examiner stated that Claim 42 recites the limitation "the water" in line 21. There is insufficient antecedent basis for this limitation in the claim. For the purposes of the present examination, "water" is construed. However, further clarification is required.

Response:

The Applicant has amended claims for the Examiner's limitation objection and believes this objection is now corrected.

The Examiner stated that Claim 42 recites the limitation "the water line" in line 21. There is insufficient antecedent basis for this limitation in the claim. For the purposes of the present examination, "a water line" is construed. However, further clarification is required.

Response:

The Applicant has amended claims for the Examiner's limitation objection and believes this objection is now corrected.

The Examiner stated that Claim 44 is rejected under 35 U.S.C. 112(b) or 35 U.S.C. 112 (pre-AIA), second paragraph, as being indefinite. Claim 44, lines 2-3 discloses "that at least one" Claim 10, from which claim 44 depends, discloses in lines 7-8 disclose "at least one." It is unclear if "at least one" of claim 44 is the same "at least one" of claim 10. For the purposes of the present examination, they are construed the same. However, further clarification is required.

Response:

The Applicant has amended claims for the Examiner's limitation objection and believes this objection is now corrected.

The Examiner stated that Claim 44 recites the limitation "the temperature" in line 5. There is insufficient antecedent basis for this limitation in the claim For the purposes of the present examination, "a temperature" is construed However, further clarification is required.

Response:

The Applicant has amended claims for the Examiner's limitation objection and believes this objection is now corrected.

The Examiner stated that Claim 47 is rejected under 35 U.S.C. 112(b) or 35 U.S.C. 112 (pre-AIA), second paragraph, as being indefinite. Claim 47, line 6 discloses "the remote computer system" Claim 47, line 3 discloses "one or more remote computer systems." It is unclear if "the remote computer system" is the same "one or more remote computer systems." For the purposes of the present examination, they are construed the same. However, further clarification is required.

Response:

The Applicant has amended claims for the Examiner's limitation objection and believes this objection is now corrected.

IN THE SPECIFICATION

[0147] ~~Multi-jet~~ Multi-jet meters, positive displacement water meter or sensor (e.g., nutating disc), single jet meters, pressure sensors, magnetic, ultrasound and Coriolis flow meters can be utilized with the present invention to function as the flow sensor **105**.

[0165] The cell phone, smart phone, remote computer, web portal or similar electronic apparatus **400** or custom display, recording apparatus **50, 56** and **110** has the convenient function of providing an individual or entity to review water use and water parameter data on a real time basis for auditing or monitoring purposes. It is also anticipated by the Applicants that the optional display means **12, 14**, and **16** (shown in FIG. **2**) can be located remotely from the water meter and leak detection system **10, 126, 200** containing the CPU or microprocessor **84** with communication and control lines **83** (shown in FIG. **3**) that communicate either wired or wirelessly. Hence, the communication and control lines **83** can be used to transfer water use parameters and leak detection alerts to a remotely positioned display receiver apparatus (not shown) or the display means **12, 14**, and **16** can be eliminated to be replaced by the first display and/or recording apparatus **50, 56, 110** or on a cell phone, smart phone, or similar apparatus **400**. The wireless communication means **46, 52 and 56**, can use can use radio-frequency, Bluetooth, Bluetooth low energy (BLE), ZigBee, Wi-Fi, Wi-Fi version 3/4/5/6, WiFi7, Li-Fi, LoRa, Sigfox, Ultra Narrow Band, 6LowPAN, NB-IoT, M-Bus, WIMAX, Amazon Sidewalk, standard cellular technology, LTE-M cellular technology, 3GPP, 4G and 5G mobile telecommunications technology or cellular technology, or other wireless technology for transferring the water parameter data generated by the sensors and collected by the microprocessor and sent to a wireless to a display means and/or a remotely positioned receiver apparatus or send control

signals back to the water meter and leak detection system 10, 126, (and 200 in FIG. 7) with water shut-off/on mechanism 310. Examples of wireless protocols that are to be utilized with the present invention water meter include, but are not limited to, as: 1; Bluetooth, and Bluetooth low energy (BLE) which originally as standard IEEE 802.15.1, which is short-range wireless technology standard that is used for exchanging data between fixed and mobile devices over short distances and building personal area networks (PANs). In the most widely used mode, transmission power is limited to 2.5 milliwatts, giving it a very short range of up to 10 meters (33 ft). utilizes the ISM bands, from 2.402 GHz to 2.48 GHz; 2. ZigBee is another IEEE 802.15.4 based specification for a suite of high-level communication protocols used to create personal area networks with small, low-power digital radios, such as for home automation, medical device data collection, and other low-power low-bandwidth needs, designed for small scale projects which need wireless connection; 3. Z-Wave is a wireless communications protocol used primarily for residential and commercial building automation. It is a mesh network using low-energy wireless technology communicating from device to device, allowing for wireless control of smart home devices, such as smart lights, security systems, thermostats, sensors, smart door locks, and garage door openers. It is a mesh network using low-energy wireless technology communicating from device to device, allowing for wireless control of smart home devices, such as smart lights, security systems, thermostats, sensors, smart door locks, and garage door openers 4; Wi-Fi, Wi-Fi version 3/4/5/6, WiFi7, is a family of wireless network protocols based on IEEE 802.11 standards for wireless local area networks (WLANs), commonly known as Wi-Fi, enabling devices. 5; Li-Fi, Li-Fi, a light communication system that is capable of transmitting data as high speeds over a visible light, ultraviolet and infrared spectrums. LoRa, LoRa, a low-power and long-range chirp spread

spectrum modulation technology and associated with the **6**; LoRaWAN network that uses the low-power and long-range chirp spread spectrum modulation technology **7**; Sigfox, employs differential binary a network protocol that uses a differential binary phase-shift keying and a Gaussian frequency shift keying over an ultra-narrow band. **8**; Ultra Narrow Band is a wireless technology that transmits over an ultra-narrow band; **9**; 6LowPAN, an Internet Protocol (IPv6) that uses a sub-1 GHz frequency with a base specification developed by the 6LoWPAN IETF group RFC 4944 (updated by RFC 6282 with header compression, RFC 6775 with neighbor discovery optimization, RFC 8931 with selective fragment recovery and with smaller changes in RFC 8025 and RFC 8066). The problem statement document is RFC 4919. IPv6 over Bluetooth Low Energy using 6LoWPAN techniques is described in RFC 7668; **10**; NB-IoT, NB-IoT, is a low-power wide-area network (LPWAN) technology designed for the Internet of Things (IoT); **11**; M-Bus, a standard network, based on a star, ring, or bus topology network with master and slave devices and specified in EN 13757 standards, that uses operating modes S, T, R, C (868 MHz), F (433 MHz), or N (169 MHz); **12**; WIMAX, a wireless communication technology based on IEEE 802.16 standards; **13**; Amazon Sidewalk, standard cellular a wireless network configured to provide cloud connectivity for one or more internet of things (IoT) devices and to use smart speakers or bridge devices, or any combination thereof; **14**; Cellular technology such as the 3rd Generation Partnership Project (3GPP) defined as the third-generation wireless mobile telecommunications technology and is an umbrella term for a number of standards organizations which develop protocols for mobile telecommunications. One popular development and maintenance was GSM and related 2G, 2.5G, and 2.75G standards, including GPRS and EDGE, which lead to UMTS and related 3G standards, including HSPA and HSPA+, LTE and related 4G standards,

including LTE Advanced and LTE Advanced Pro LTE-M and 4G technology application technology is widely used in various applications due to its efficiency and low power consumption. A) Asset Tracking: Devices can track assets in real-time, providing valuable data for management and maintenance. B) Smart Metering: LTE-M is used to monitor and manage energy consumption and billing for smart meters. C) Health Monitoring: Wearable devices can continuously monitor health metrics and transmit data to a central server. D) Fleet Management: E) LTE-M is utilized in fleet management systems to track and manage vehicles in real-time. E) Remote Sensing: Devices can collect and transmit data from remote locations, such as agricultural fields or urban areas. These applications demonstrate the versatility and effectiveness of LTE-M technology in supporting a wide range of IoT and M2M scenarios, all defined as the fourth-generation wireless mobile telecommunications technology; and 5G NR and related 5G standards, including 5G-Advanced defined as the fifth-generation wireless mobile telecommunications technology; for transferring the water parameter data generated by the sensors and collected by the microprocessor and sent to a wireless to a display means and/or a remotely positioned receiver apparatus or send control signals back to the water meter and leak detection system 10, 126, (and 200 in FIG. 7) with water shut-off/on mechanism 310. Examples of family of wireless network wireless protocols that can be utilized with the present invention include, but are not limited to, the IEEE 802.11a, IEEE 802.11 b, IEEE 802.11g and IEEE 802.11n modulation techniques and the newer protocols associated with Wi-Fi3/4/5/6 and Wi-Fi7. Examples of wireless protocols that can be utilized with the present invention include, but are not limited to, the IEEE 802.11a, IEEE 802.11 b, IEEE 802.11g and IEEE 802.11n modulation techniques and the newer protocol associated with Wi-Fi3. Another example of the wireless protocols that can be utilized with the present invention is the ZigBee, Z-wave, M-Bus and IEE

~~802.15.4 modulation technology. Furthermore, wireless low power and long range technology such as "LoRa" or Ultra Narrow Band chips (Ultra High Performance RF Narrowband Transceiver) can be used with the present invention. Applicants recognize that there are numerous wireless protocols, such as Amazon Sidewalk, that have been recently developed that could be utilized with the present invention for data transfer purposes~~

[203a] Figure 15A is an illustration of the pressure drop within a typical 3-bedroom residence having copper plumbing and a pressure regulator wherein there is no leak. This test was done as a leak detection analysis where the water control valve mechanism 310 is closed and the pressure measured over time. This example pressure curve demonstrates an initial equalization with a stable curve that does not exhibit any significant decay in pressure. This leak detection analysis can be initiated by the user sending a signal or command from an electronic communication device or a remote computer system. The sequence of this leak detection test begins by closing the water control valve mechanism 310 and then monitor the pressure (and water flow rate) for a period.

[203b] Figure 15B is an illustration of the pressure drop within a typical 3-bedroom residence having copper plumbing and a pressure regulator wherein the leak is approximately 20 ml/min. This test was done as a leak detection analysis where the water control valve mechanism 310 is closed and the pressure measured over time. This example pressure curve shows a gradual decay in pressure, but the small leak (dripping faucet at 20 ml per minute) is clearly visible. This leak detection analysis can be initiated by the user sending a signal or command from an electronic communication device or a remote computer system. The sequence of this leak detection test

begins by closing the water control valve mechanism and then monitor the pressure decay rate (and water flow rate) for a period.

[203c] Figure 15C is an illustration of the pressure drop within a typical 3-bedroom residence having copper plumbing and a pressure regulator wherein the leak is approximately 60 ml/min. This test was done as a leak detection analysis where the water control valve mechanism 310 is closed and the pressure measured over time. This example pressure curve shows a steep decline in pressure over time and the large leak (toilet flapper valve leak of 60 ml per minute) is clearly visible. This leak detection analysis can be initiated by the user sending a signal or command from an electronic communication device or a remote computer system. The sequence of this leak detection test begins by closing the water control valve mechanism and then monitor the pressure decay rate (and water flow rate) for a period.

This present set of claims completely replaces any and all of the previous sets of claims submitted to the USPTO.

CLAIMS

1. (currently amended) A water meter system comprising:

a base station ~~interposed~~ configured to be installed between a main water supply line for one or more buildings or structures and a water supply from a water source provider;

the base station ~~further~~ comprising:

- a) an electrical circuitry including at least one of a CPU, a microprocessor, or a microcontroller, or any ~~combinations~~ combination thereof;
- b) ~~one or more flow rate sensors connected to the electrical circuitry;~~
- e)b) a power source configured to be electrically connected to the electrical circuitry;
- d)c) ~~the one or more water flow rate sensors or one or more positive displacement water meters or sensors~~ configured to sense and monitor a flow of water ~~flow~~ through the main water supply line;
- e)d) a memory including instructions that, when executed; by ~~the~~ at least one of the CPU, the microprocessor, or the microcontroller, or any combination thereof, ~~(+) performs monitoring or calculating of monitor~~ water data for of the one or more buildings or structures, the water data comprising one or more of water flow rate uses rates, one or more water use flow durations, or one or more total water volumes, or water energy uses, or any ~~combinations~~ combination thereof;

~~the~~ one or more wireless communication transceivers, ~~wherein~~ at least one of the one or more wireless communication transceivers ~~are~~is configured to communicate via:

a wireless network protocol based on ~~an~~ IEEE 802.11 ~~standard~~standards;

an infrared light transmission scheme;

a low power and long-range chirp spread modulation technology;

a network that uses ~~using the~~ low power and long-range chirp spread modulation technology;

a wireless technology that transmits over ~~a very narrow spectrum~~ an ultra narrow band;

an Internet Protocol (IPv6) that uses ~~with~~ a sub-1 GHz frequency;

a network, ~~is~~ based on a star, ring, or bus topology network with master and slave devices and specified ~~described in the~~ EN 13757 ~~standard~~standards, ~~which comprise that~~ uses operating modes S, T, R, and C (868 MHz), F (433 MHz), and or NW (169MHz);

a narrowband internet of things (IoT) protocol that uses a low-power wide-area network technology standard by 3GPP for cellular network devices and services;

a network protocol that uses a differential binary phase-shift keying and a Gaussian frequency shift keying over an ultra narrow band;

~~an interoperable implementation of a~~ wireless communication technology based on IEEE 802.16 family of wireless networks standards;

a wireless network that uses a low-bandwidth and long-range connectivity, the wireless network is ~~that uses a compatible smart speaker technology that provides~~ configured to

provide cloud connectivity for the one or more Internet of Things (IoT) devices, and utilizes low-bandwidth and long-range connectivity, smart speakers, or bridge devices, or any combination thereof;

a third-generation wireless mobile telecommunications technology;

a fourth-generation wireless mobile telecommunications technology; or

a fifth-generation wireless mobile telecommunications technology;

or any combination thereof;

wherein one or more wireless communication technologies are configured to communicate via one or more wireless mobile telecommunication technologies that utilize a cellular transceiver configured to download an embedded Subscriber Identity Module (eSIM) code.

g)

wherein the one or more wireless communication transceivers ~~utilizes~~ are configured to utilize an authentication technology or an encryption technology, or any combination thereof, when: transmitting the water data; or receiving a signal or a command; or any combination thereof;

wherein the one or more wireless communication transceivers are configured to communicate with an Internet connection, one or more remote computers, a private network, a public network, a corporate network, or a cloud service company, or any combination thereof;

wherein when the one or more water flow rate sensors ~~detects~~ detect ~~the~~ an initiation of ~~a~~ water flow ~~the flow of water, the~~ wherein at least one of the CPU, the microprocessor, or the microcontroller, or any combination thereof, ~~instructs~~ is configured to instruct the one or more

water flow rate sensors to ~~initiate monitoring or increase the~~adjust a sampling rate to ~~define the~~monitor one or more water flow events; and

wherein the water data is transmitted, utilizing an application programming interface (API), to a
~~the one or more remote computer computers or the a~~ cloud service company ~~utilizing an~~
~~application programming interface (API).~~

2. (currently amended) The water meter system as recited in Claim 1, further comprising a water control valve mechanism, ~~the water control valve mechanism~~ including at least one of a ball valve, a solenoid valve, a piston valve, a variable open design ~~water control~~ valve, a gate valve, or a three-way ~~water control~~ valve, or any combination thereof, said the water control valve mechanism ~~connected to~~ is configured to connect with the electrical circuitry.

3. (currently amended) The water meter system as recited in Claim 1, wherein the application programming interface (API) comprises at least one of: (i) a direct ~~i~~Internet message encapsulation, (ii) a simple object access protocol, (iii) ~~a representational state transfer and~~ an architectural style that sends requests and receives responses using methods to access and process data for distributed hypermediadifferent systems via the Internet connection, (iv) a platform that uses a Java development kit to facilitate ~~communication~~communications between APPs and external services over a HTTP, (v) a document object module that is written in a JavaScript ~~that and~~ uses a Java to ~~process~~handle operations of a web document, (vi) a simple event-driven algorithm for lexing and parsing XML documents, (vii) a bidirectional read/write event-based method for lexing and parsing the XML documents, or (viii) an extensible markup language application programming interface ~~and other application programming interface protocols that provides at least one of a control system architecture~~, or any combination thereof.

4. (currently amended) The water meter system as recited in Claim 2, further comprising a pressure sensor, the memory further including instructions that, when executed by ~~the~~ at least one of the CPU, the microprocessor, or the microcontroller, or any combination thereof, perform, based on pressure data from the pressure sensor: (i) ~~detecting~~monitoring ~~one or more water~~

~~pressure patterns and, -water signature establishing pressure signatures; (ii) and- detecting a leak conditionscondition; or (ii)(iii) monitoring pressure changes when the base station closes the water control valve mechanism;~~ or any combinations thereof.

5. (currently amended) The water meter system as recited in Claim 1, further comprising a temperature sensor.

6. (currently amended) The water meter system as recited in Claim 1, ~~wherein~~further comprising that at least one of the CPU, the microprocessor, or the microcontroller, or any combination thereof, includes a software program that performs a water use device calibration mode, ~~wherein~~ the water use device calibration mode informs a user to activate a water use device, fixture, or appliance, monitors and records the one or more water flow events, and utilizes at least one of a software calculation, an algorithm, or an artificial intelligence, or any combination thereof, to monitor a water pattern and establish a water signature or a water pattern in identifying to identify the water use device, fixture, or appliance.

7. (currently amended) The water meter system as recited in Claim 1, ~~further comprising that~~wherein at least one of the CPU, the microprocessor, or the microcontroller, or any combination thereof, includes a software program that performs an automatic learning mode, ~~wherein~~ the automatic learning mode ~~executes~~ implements a period of ~~self-learning~~self-learning, monitors and records the one or more water flow events, and utilizes at least one of a software calculation, an algorithm, or an artificial intelligence, or any combination thereof, to monitor water patterns and establish a water signatures or a water pattern in identifying to identify water use devices, fixtures, or appliances, or any combination thereof.

8. (currently amended) The water meter system as recited in Claim 2, wherein the base station is configured to receive the signal or the command, from a-the one or more remote computers or one or more electronic communication devices, to transmit the water data, close or open the

water control valve mechanism, or to perform a leak detection analysis, or any combination thereof.

9. (currently amended) The water meter system as recited in Claim 1, wherein at least one of the one or more wireless communication transceivers ~~are~~ is configured to utilize a blockchain technology to transmit the water data ~~or~~ and receive the information, the signal or the command, or any combination thereof, utilizing blockchain technology.

10. (currently amended) A water meter system comprising:

a collection node ~~interposed~~ configured to be installed between a main water supply line for one or more buildings or structures and a water supply from a water source provider;

said the collection node further comprising;

- a) an electrical circuitry including at least one of a CPU, a microprocessor, or a microcontroller, or any combination thereof;
- ~~b) a one or more flow rate sensors electrically connected to the electrical circuitry;~~
- ~~e)b) a power source that is electrically connected to said~~ configured to be electrically connected to the electrical circuitry;
- ~~d)c) the one or more water flow rate sensors or one or more positive displacement water meters or sensors~~ configured to sense and monitor a flow of water ~~flow~~ through the main water supply line;
- ~~e)d) a memory including instructions that, when executed, by the at least one of the CPU, the microprocessor, or the microcontroller, or any combination thereof, (i) performs monitoring or calculating of monitor water data for of the one or more buildings or structures, the water data comprising one or more of water flow rate uses rates, one or~~

~~more~~ water flow durations, or one or more total water volumes, or water energy uses, or any combinationscombination thereof;

~~4)e)~~ one or more wireless communication transceivers, wherein at least one of the one or more wireless communication transceivers areis configured to communicate via:

a wireless network protocol based on an IEEE 802.11 standardstandards;

an infrared light transmission scheme;

a low power and long-range chirp spread modulation technology;

a network that uses using the low power and long-range chirp spread modulation technology;

a wireless technology that transmits over a very narrow spectruman ultra narrow band;

an Internet Protocol (IPv6) that useswith a sub-1Ghzsub-1 GHz frequency;

a network, is-based on a star, ring, or bus topology network with master and slave devices and specified-described in the-EN 13757 standardstandards, which comprise that uses operating modes S, T, R, and C (868 MHz), F (433 MHz), andor NW (169 MHz);

a narrowband internet of things (IoT) protocol that uses a low-power wide-area network technology standard by 3GPP for cellular network devices and services;

a network protocol that uses a differential binary phase-shift keying and a Gaussian frequency shift keying over an ultra narrow band;

an interoperable implementation of a wireless communication technology based on IEEE 802.16 family of wireless-networks standards;

a wireless network that uses a low-bandwidth and long-range connectivity, the wireless network is that uses a compatible smart speaker technology that provides configured to provide cloud connectivity for the one or more Internet of Things (IoT) devices, and utilizes low-bandwidth and long-range connectivity smart speakers, or bridge devices, or any combination thereof;

a third-generation wireless mobile telecommunications technology;

a fourth-generation wireless mobile telecommunications technology; or

a fifth-generation wireless mobile telecommunications technology;

or any combination thereof;

wherein one or more wireless communication technologies are configured to communicate via one or more wireless mobile telecommunication technologies that utilize a cellular transceiver configured to download an Embedded Subscriber Identity Module (eSIM) code.

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wherein the one or more wireless communication transceivers are configured to utilize an authentication technology or an encryption ~~technologies~~ technology, or any combination thereof, when transmitting the water data, or receiving a signal or a command; or any combination thereof;

wherein the collection node is configured to ~~communication~~ communicate with one or more communication hubs that function to extend a wireless range of the one or more wireless communication transceivers;

wherein the one or more communication hubs perform as a repeater device or provide a mesh technology, or any combination thereof;

the one or more communication hubs having a second electrical circuitry including at least one of a second CPU, a second microprocessor, or a second microcontroller, wherein the second electrical circuitry includes a second power source;

wherein the one or more communication hubs includes one or more a second wireless communication ~~tranceivers~~transceiver that ~~communicates~~communicate with an Internet connection, ~~a one or more remote computer~~computers, a private network, a public network, a corporate network, or a cloud service company, or any combination thereof;

wherein when the one or more flow rate sensors detect an initiation of the flow of water, wherein at least one of the CPU, the microprocessor, or the microcontroller, or any combination thereof, is configured to instruct the one or more water flow rate sensors to adjust a sampling rate to monitor one or more water flow events;

wherein the one or more wireless communication transceivers are configured to communicate with the Internet connection, the one or more remote computers, the private network, the public network, the corporate network, or the cloud service company, or any combination thereof;

wherein the water data is transmitted, utilizing an application programming interface (API), to a the one or more remote ~~computer~~computers or the cloud service company ~~utilizing an application programming interface (API).~~

11. (currently amended) The water meter system as recited Claim 10, further comprising a water control valve mechanism, ~~the water valve control mechanism~~ including at least one of a ball valve, a solenoid valve, a piston valve, a variable open design ~~water control~~ valve, a gate valve, or a three-way ~~water control~~ valve, or any combination thereof, said the water control valve mechanism ~~connected~~is configured to connect with the electrical circuitry.

12. (currently amended) The water meter system as recited in Claim 10, wherein the application programming interface (API) comprises at least one of: (i) a direct ~~Internet~~ message encapsulation, (ii) a simple object access protocol, (iii) ~~a representational state transfer and~~ an architectural style that sends requests and receives responses using methods to access and process data for distributed hypermedia different systems via the Internet connection, (iv) a platform that uses a Java development kit to facilitate communication between APPs and external services over a HTTP, (v) a document object module that is written in a JavaScript ~~that and~~ uses a Java to ~~handle~~process operations of a web document, (vi) a simple event-driven algorithm for lexing and parsing XML documents, (vii) a bidirectional read/write event-based method for lexing and parsing the XML documents, or (viii) an extensible markup language application programming interface ~~and other application programming interface protocols that provides at least one of a control system architecture~~, or any combination thereof.

13. (currently amended) The water meter system as recited in Claim 1, further comprising one or more electronic communication devices that include at least one of a ~~smart~~-cell phone, a mobile phone, a PDA, a tablet, ~~a the~~ remote computer, ~~or a~~ server, a web portal, a smart or ~~Internet~~ capable television, a wireless smartwatch, ~~and a~~ remote computer operation center, or ~~an~~ another electronic communication apparatus, or any combination thereof, ~~wherein the one or more~~ electronic communication devices are configured to communicate with ~~a the~~ one or more remote computers or ~~a the~~ cloud service company, or any combination thereof.

14. (currently amended) The water meter system as recited in Claim 10, further comprising an acoustic sensor, the memory further including ~~instruction~~instructions that, when executed by at least one of the CPU, the microprocessor, or the microcontroller, or any combination thereof, perform, based on acoustic data from the acoustic sensor: (i) monitoring sound patterns and establishing sound signatures to one or more signals from the acoustic sensor, ~~identifies~~ identify one ~~or~~ more water control valves; or (ii) detecting a leak condition; or any combination thereof.

15. (currently amended) The water meter system as recited in Claim 10, further comprising one or more electronic communication devices that include at least one of a ~~smart~~-cell phone, a

mobile phone, a PDA, a tablet, ~~a~~the remote computer, ~~or a~~ server, a web portal, a smart or an Internet capable television, a wireless smartwatch, ~~and a~~ remote computer operation center, or ~~an~~ another electronic communication apparatus, or any combination thereof, ~~wherein the one or more~~ electronic communication devices are configured to communicate with a ~~the~~ one or more remote computers or ~~a~~the cloud service company, or any combination thereof.

16. (currently amended) The water meter system as recited in Claim 10, further comprising one or more water quality sensors configured to ~~periodically~~ monitor at least one of a pH, a halogen, total dissolved solids, a biological or a fecal contamination, a water hardness, a metallic ion, or any combination thereof.

17. (currently amended) The water meter system as recited in Claim 10, wherein at least one of the one or more -wireless communication transceivers and at least one of the one or more second wireless communication transceivertransceivers- are configured to utilize a blockchain technology to transmit the water data, or and receive the information, the signal or the command, or any combination thereof, utilize blockchain technology.

18. (currently amended) The water meter system as recited in claim 10, ~~further comprising that~~ wherein one or more collection nodes and a ~~the~~ one or more communication hubs ~~form or configure~~ are configured to form a ~~the~~ private network, the public network, or ~~a~~the corporate network, or any combination thereof; the private network, the public network, or the corporate network ~~that~~ utilizes an application programming interface (API) when communicating with the one or more remote computercomputer system, a ~~the~~ cloud service company, ~~or the one or more~~ electronic communication devices, or any combination thereof.

19. (currently amended) The water meter system as recited in Claim 10, ~~further comprising that wherein~~ at least one of the CPU, the microprocessor, or the microcontroller, or any combination thereof, includes a software program that performs a water use device calibration mode, wherein the water use device calibration mode informs a user to activate a water use device, fixture, or appliance, monitors and records the one or more water flow events, and utilizes at least one of a software calculation, an algorithm, or an artificial

intelligence, or any combination thereof, to establish ~~monitor a water pattern and establish~~
~~a water signatures or water patterns in identifying specific water use a signature to identify~~
the water use device, fixture, or appliance.

20. (currently amended) The water meter system as recited in Claim 10, ~~further comprising~~
~~that wherein~~ at least one of the CPU, the microprocessor, or the microcontroller, or any
 combination thereof, includes a software program that performs an automatic learning
 mode, ~~wherein~~ the automatic learning mode executes a period of self-learning, monitors and
 records the one or more water flow events, and utilizes at least one of a software calculation,
 an algorithm, or an artificial intelligence, or any combination thereof, to monitor water
~~patterns and established~~ establish ~~water signatures or water patterns in identifying specific to~~
identify water use devices, a fixtures, or an appliances, or any combination thereof.

21. (currently amended) A water meter system comprising:

a base station ~~interposed~~ configured to be installed between a main water supply line for ~~a one or~~
 more buildings or structures and a water supply from a water source provider;

the base station ~~further comprising~~:

- a) an electrical circuitry including at least one of a CPU, a microprocessor, or a
 microcontroller, or any combination thereof;
- b) a power source configured to be electrically connected to the electrical circuitry, the
 power source ~~obtained from an electrical supply over~~ comprising a Power over Ethernet
(PoE) based on IEEE 802.3af, IEEE 802.3at, or IEEE 802.3bt standards, or any
combination thereof;
- c) ~~a one or more water flow rate sensors~~ or one or more positive displacement water meters
or sensors configured to sense and monitor a flow of water ~~flow~~ through the main water
 supply line;

- e) a memory including ~~software~~ instructions that, when executed by at least one of the CPU, the microprocessor, or the microcontroller, or any combination thereof, ~~perform monitoring or calculating a~~ monitor water data ~~for~~of the one or more buildings or structures, the water data comprising ~~at least one of~~ more of water flow ~~rate~~uses, water ~~use~~flow durations, total water volumes, or water energy uses, or any combination thereof; and

wherein the water data is ~~transferred~~transmitted, via the Power over Ethernet (PoE) based on the IEEE 802.3af, IEEE 802.3at or IEEE 802.3bt standards, or any combination thereof, to~~through~~ an ~~Internet connection to one or more remote computers or a cloud service company, via a~~ Power over the Ethernet (PoE).

22. (currently amended) The water meter system as recited in claim 21, further comprising a water control valve mechanism including at least one of a ball valve, a solenoid valve, a piston valve, a variable open design valve, a gate valve, or a three-way valve, or ~~gate valve~~, or any combination thereof, the water control valve mechanism is configured to connect with the electrical circuitry.

23. (currently amended) ~~The water meter as recited in Claim 21, the Power over Ethernet (PoE) allow a signal cable to upload the water data and simultaneously provide electric power to the base station.~~ The water meter system as recited in Claim 1, further comprising an acoustic sensor, the memory further including instructions that, when executed by at least one of the CPU, the microprocessor, or the microcontroller, or any combination thereof, perform, based on acoustic data from the acoustic sensor: (i) monitoring sound patterns and establishing sound signatures to identify one or more water control valves; or (ii) detecting a leak condition; or any combination thereof.

24. (currently amended) The water meter system as recited in Claim 21, further including one or more rechargeable batteries that are supplemented with an electrical energy by ~~a~~ hardwired

~~IEEE the Power over Ethernet (PoE) based on the IEEE 802.3af, IEEE 802.3at, or IEEE 802.3bt standards~~source, or any combination thereof.

25. (currently amended) The water meter system as recited in Claim 21, wherein the Power over Ethernet (PoE), based on IEEE 802.3af, IEEE 802.3at, or IEEE 802.3bt standard, or any combination thereof, ~~provides a direct connection~~ connects to an ~~the~~ Internet connection through a residential or corporate router, or connects to a private network, a public network, or a corporate or public network, or any combination thereof; ~~and is the private network, the public network, or the corporate network~~ is configured to utilize an application programming interface (API).

26. (currently amended) The water meter system as recited in Claim 21, further comprising a communication hub ~~that is configured to connected by hard wire~~ to the Power over Ethernet (PoE), ~~wherein the communication hub utilizes a one or more wireless communication transceivers to communicate with (i) a residential or corporate a router for access to the an~~ Internet, ~~or (ii) to, a corporation or a private network, a public network, or a corporate public network;~~ or any combination thereof.

27. (currently amended) The water meter system as recited in Claim 26, wherein the communication hub includes the one or more wireless communication transceivers, ~~wherein at least one of the one or more wireless communication transceivers are~~ is configured to communicate via:

a wireless network protocol based on ~~an~~ the IEEE 802.11 ~~standard~~ standards;

an infrared light transmission scheme;

a low power and long-range chirp spread modulation technology;

a network ~~that uses~~ using the ~~the~~ low power and long-range chirp spread modulation technology;

a wireless technology that transmits over ~~a very narrow spectrum~~ an ultra narrow band;

an Internet Protocol (IPv6) ~~that uses~~ with a sub-1 GHz frequency;

a network _x is based on a star, ring, or bus topology network with master and slave devices ~~and specified~~ described in the EN 13757 standard ~~standards, which comprises~~ that uses operating modes S, T, R, ~~and~~ C (868 MHz), F (433 MHz), and NW (169 MHz);

a narrowband internet of things (IoT) protocol that uses a low-power wide-area network technology standard by 3GPP for cellular network devices and services;

a network protocol that uses a differential binary phase-shift keying and a Gaussian frequency shift keying over an ultra narrow band;

~~an interoperable implementation of a~~ a wireless communication technology based on the IEEE 802.16 family of wireless networks standards;

a wireless network that uses a low-bandwidth and long-range connectivity, the wireless network is ~~that uses a compatible smart speaker technology that provides configured to provide cloud connectivity for a~~ one or more Internet of Things (IoT) devices, and smart speakers, or bridge devices, or any combination thereof ~~utilizes low bandwidth and long range connectivity;~~

a third-generation wireless mobile telecommunications technology;

a fourth-generation wireless mobile telecommunications technology; or

a fifth-generation wireless mobile telecommunications technology;

or any combination thereof;

wherein one or more wireless communication technologies are configured to communicate via one or more wireless mobile telecommunication technologies that utilize a cellular transceiver configured to download an embedded Subscriber Identity Module (eSIM) code.

28. (currently amended) The water meter as recited in Claim 21, wherein the one or more wireless communication transceivers utilizes are configured to utilize an authentication technology or an encryption technology, or any combination thereof, when: transmitting the water data.; or receiving a signal or a command; or any combination thereof. ~~when the one or more flow rate sensors detects the initiation of a water flow, the at least one of the CPU, the microprocessor, or the microcontroller, or any combination thereof, instructs the water flow rate sensor to initiate monitoring or increase the sampling rate to define the one or more water flow events.~~

29. (currently amended) The water meter system as recited in Claim 25, wherein the application programming interface (API) comprises at least one of: i) (i) a direct iInternet message encapsulation, (ii) a simple object access protocol, (iii) a representational state transfer and an architectural style that sends requests and receives responses using methods to access and process data for distributed hypermedia different systems via an Internet connection, (iv) a platform that uses a Java development kit to facilitate communication between APPs and external services over a HTTP, (v) a document object module that is written in a JavaScript that and uses a Java to handle process operations of a web document, (vi) a simple event-driven algorithm for lexing and parsing XML documents, (vii) a bidirectional read/write event-based method for lexing and parsing the XML documents, or (viii) an extensible markup language application programming interface and other application programming interface protocols that provides at least one of a control system architecture, or any combination thereof.

30. (currently amended) The water meter system as recited in Claim 22, further comprising a pressure sensor, the memory further including instructions that, when executed by ~~the~~ at least one of the CPU, the microprocessor, or the microcontroller, or any combination thereof, perform, based on pressure data ~~obtained~~ from the pressure sensor: (i) ~~detecting one or more water monitoring pressure patterns, and establishing water pressure signatures; or~~ (ii) ~~detecting a leak conditions condition;~~ or (iii) monitoring pressure changes when the base station closes the water control valve mechanism; or any combinations thereof.

31. (currently amended) The water meter system as recited in Claim 22, wherein the base station is configured to receive a signal or a command, from the one or more remote computers or one or more electronic communication devices, to transmit the water data, close or open the water control valve mechanism, ~~to~~ or perform a leak detection analysis, or any combination thereof.

32. (currently amended) The water meter system as recited in Claim 21, wherein the base station is configured to transmit an alert or a notification, in response to detecting a leak condition, provide a registered user, owner or a monitoring facility, or any combination thereof, a warning or signal to the one or more remote computers ~~systems~~ or ~~to~~ one or more electronic communication devices to inform a user, an owner, or a monitoring facility, or any combination thereof, in response to detecting a leak condition.

33. (currently amended) The water meter system as recited in Claim 21, further comprising a temperature sensor.

34. (currently amended) The water meter system as recited in Claim 33, wherein the memory further including instructions that, when executed by at least one of the CPU, the microprocessor, or the microcontroller, or any combination thereof, perform, based on ~~the~~ temperature data from the temperature sensor, that the water temperature is ~~approaching~~ approaches a ~~freezing~~ freeze point of 32 degrees Fahrenheit or 0 degrees Celsius; (i) sending a ~~freeze~~ warning or a message to ~~at the~~ one or more remote ~~computers~~ computers or ~~a~~ one or more electronic communication devices, or any combination thereof; (ii) communicating

with an intelligent thermostat with wireless technology to turn on a heating system for the one or more buildings or structures; or (iii) ~~initiate~~conducting a water freeze protection procedure ~~that includes~~including draining the main water supply line; or replacing ~~the at least a~~at least a portion of the water in the main water supply line with ~~an~~a air, ~~a~~a nitrogen, or another gas or liquid having a low freezing point; or any combination thereof.

35. (currently amended) The water meter system as recited in Claim 21, further comprising one or more electronic communication devices that ~~include~~are configured to communicate with ~~a one or more remote computers or a cloud service company; the one or more electronic communication devices includes~~ at least one of a smart-cell phone, a mobile phone, a PDA, a tablet, ~~at the~~a remote computer, ~~or a~~a server, a web portal, a smart or ~~an~~a Internet capable television, a wireless smartwatch, ~~and a~~a remote computer operation center, or ~~an~~another electronic communication apparatus, or any combination thereof, the one or more electronic communication devices are configured to communicate with the one or more remote computers or the cloud service company, or any combination thereof.

36. (currently amended) The water meter system as recited in Claim 21, further comprising an acoustic sensor, the memory further including instructions that, when executed by ~~-at least one~~ of the CPU, the microprocessor, or the microcontroller, or any combination thereof, perform, based on acoustic data obtained from the acoustic sensor; (i) monitoring sound patterns and establishing sound signatures to ~~identifying~~identify one ~~or of~~or more water appliances or faucets water control valves; or (ii) detecting ~~or the~~a leak condition; or any combination thereof.

37. (currently amended) The water meter system as recited in Claim 21, wherein at least one of the CPU, the microprocessor, or the microcontroller, or any combination thereof, and at least one of the one or more wireless communication transceivers ~~enters into~~enter a sleep mode ~~between at least one of~~until awakened by a water flow event, a leak ~~detecting test~~detection analysis, or receiving the signal or the command, or an alert or a notification, or any combination thereof.

38. (currently amended) The water meter system as recited in Claim 21, further comprising one or more water quality sensors configured to ~~periodically~~ monitor at least one of a pH, a halogen, total dissolved solids, a biological or a fecal contamination, a water hardness, a metallic ion, or any combination thereof.

39. (currently amended) The water meter system as recited in Claim 27, wherein at least one of the one or more wireless communication transceivers are configured to use a blockchain technology to transmit the water data, or and receive the information, the a signal or a command, or any combination thereof, utilize blockchain technology.

40. (currently amended) The water meter system as recited in Claim 21, ~~further comprising~~ wherein at least one of the CPU, the microprocessor, or the microcontroller, or any combination thereof, ~~that~~ includes a software program that performs a water use device calibration mode, ~~wherein~~ the water use device calibration mode informs a user to activate a water use device, fixture, or appliance, monitors and records one or more water flow events, and utilizes at least one of a software calculation, an algorithm, or an artificial intelligence, or any combination thereof, to monitor a water pattern and establish a water signature or a water pattern in identifying to identify the water use device, fixture, or appliance.

41. (currently amended) The water meter system as recited in Claim 21, ~~further comprising~~ wherein at least one of the CPU, the microprocessor, or the microcontroller, or any combination thereof, ~~that~~ includes a software program that performs an automatic learning mode, ~~wherein~~ the automatic learning mode ~~implements~~ executes a period of self-learning, monitors and records one or more water flow events, and utilizes at least one of a software calculation, an algorithm, or an artificial intelligence, or any combination thereof, to monitor water patterns and establish a water signature ~~signatures~~ or a water pattern in identifying to identify water use devices, fixtures, or appliances, or any combination thereof.

42. (currently amended) The water meter system as recited in Claim 5, wherein the memory further ~~includes~~ including instructions that, when executed by at least one of the CPU, the microprocessor, or the microcontroller, or any combination thereof, ~~performs~~ perform, based on

temperature data from the temperature sensor; that ~~the~~ a water temperature is ~~approaching~~ approaches a ~~freezing~~ freeze point of 32 degrees Fahrenheit or 0 degrees Celsius; (i) ~~sending a freeze-warning or a message to the one or more remote computers-systems or the one or more electronic communication devices, or any combination thereof;~~ (ii) communicating with an intelligent thermostat with wireless technology to turn on a heating system for the one or more buildings or structures; or (iii) ~~initiate~~ conducting a water freeze protection procedure ~~that includes~~ including draining the main water supply line; or replacing ~~the~~ at least a portion of the water in the main water supply line with ~~an~~ air, a nitrogen, or another gas or liquid having a low freezing point; or any combination thereof.

43. (currently amended) The water meter system as recited in Claim 10, further comprising a temperature sensor.

44. (currently amended) The water meter system as recited in Claim 43, wherein the memory further ~~includes~~ including instructions that, when executed by at least one of the CPU, the microprocessor or the microcontroller, or any combination thereof, ~~performs~~ perform, based on temperature data from the temperature sensor; that ~~the~~ a water temperature is ~~approaching~~ approaches a ~~freezing~~ freeze point of 32 degrees Fahrenheit or 0 degrees Celsius; (i) ~~sending a freeze-warning or a message to the one or more remote computers-systems or the one or more electronic communication devices, or any combination thereof;~~ (ii) communicating with an intelligent thermostat with wireless technology to turn on a heating system for the one or more buildings or structures; or (iii) ~~initiate~~ conducting a water freeze protection procedure ~~that includes~~ including draining the main water supply line; or replacing at least a portion of the water in the main water supply line with ~~an~~ air, a nitrogen, or another gas or liquid having a low freezing point; or any combination thereof.

45. (currently amended) The water meter system as recited in Claim 1, wherein the base station is configured to transmit an alert or a notification, in response to detecting a leak condition, provide a registered user, owner or monitoring facility, or any combination thereof, a warning or signal to a ~~the one or more remote computers-systems or to a one or more electronic~~

communication devices to inform a user, an owner, or a monitoring facility, or any combination thereof, ~~in response to detecting a leak condition.~~

46. (currently amended) The water meter system as recited in Claim 10, wherein the ~~base station~~ collection node is configured to transmit an alert or a notification, in response to detecting a leak condition, ~~provide a registered user, owner or monitoring facility, or any combination thereof, a warning or signal to a~~ the one or more remote computers ~~systems or to a one or more~~ electronic communication devices to inform a user, an owner, or a monitoring facility, or any combination thereof, ~~in response to detecting a leak condition.~~

47. (currently amended) The water meter system as recited in claim 21, wherein the Power over Ethernet (PoE) is configured to (i) ~~transfer~~ transmit the water data from the base station to the one or more remote computers ~~systems, a~~ the cloud service company, or to ~~a one or more~~ electronic communication devices, a water data and (ii) receive a signal or a command from the one or more of the remote computers ~~systems, a~~ the cloud service company or the one or more electronic communication devices.

Response to Final Office Action

Claim Rejections - 35 USC§ 102

Regarding independent claims 1 and 10, Klicpera WO 2020/154384 A1 (herein “Klicpera”) does not disclose that when the one or more flow rate sensors detect the initiation of a water flow, the at least one of the CPU, the microprocessor or the microcontroller, or any combination thereof, is configured to instruct the one or more water flow rate sensors to adjust a sampling rate to define one or more water flow events.

A battery powered meter generally has three power draining processes including closing the water control valve mechanism, sending out data to wireless to remote computers and processing the CPU, the microprocessor or microcontroller, uses programming instructions, algorithms or artificial intelligence techniques to monitor various water use devices during a water event. Most problematic is monitoring washing machines and dishwashers as the flow rate changes during a single cycle where when identified by the CPU, the microprocessor or microcontroller, must adjust the sampling rate to accommodate monitoring the actual water use and identification. Another problematic situation occurs when two or more water use devices occur at the same time (e.g., when an individual flushes the toilet that usually takes 45 seconds to fill during which some users turns on the facet to wash their hands). When two or more water use devices are using water at the same time the CPU, the microprocessor or microcontroller, must increase the sampling rate to monitor when each device stops water use flow. When this two standard water devices that don't change the water flow use during a cycle are like a washing machine or dishwashers so the one of the CPU, the microprocessor or the microcontroller can reduce the sampling rate of the flow sensor. The water flow event of Klicpera only monitors the water between when the flow rate begins and stops.

Claims 2-9, 42 and 45 are dependent upon Claim 1 and are patentable as claim 1 is patentable.

Claims 11-20, 43, 44, and 46 are dependent upon claim 10 and are patentable as claim 10 is patentable.

The Examiner stated that Claims 21-22, 38, 30-41, and 47 are rejected under 35 U.S.C. 103 as being unpatentable over Klicpera in view of CN 206133917 U to Li, hereinafter Li.

Claim Rejections - 35 USC§ 103

Regarding independent claim 21 Klicpera in view of CN 206133917 U to Li, hereinafter Li (“Li”) does not disclose or claim that the power over ethernet (“POE”) transfers water data to one or more remote computers or a cloud service company. Li only uses the POE as a power source. Also, there is no disclosure of the various POE technologies (IEEE 802.3af, and IEEE 802.3at or an IEEE 802.3bt). IEEE 802.3af provides 15.4 watts at 48 volts DC, the IEEE 802.3at provides 25.5 at 48 volts DC, and 802.3bt provides 60 watts at 48 volts DC. For some water meter applications, the IEEE 802.3af with 15.4 watts can be used to only charge rechargeable batteries (see claim 24). Whereby the IEEE 802.3bt with 60 watts can be used to power all applications of the water meter, especially as the 48 volts DC is transformed down to 12, 5, or 3 volts DC for typical electronic circuitry wherein the 802.3bt can continue to use the POE technology to transfer water data, or receive commands or signals. Li does not disclose these factors.

Claims 22-41 and 47 are dependent upon claim 21 and are patentable as claim 21 is patentable.

The Examiner stated that Claim 24 is rejected under 35 U.S.C. 103 as being unpatentable over Klicpera in view of Li, in further view of EP 3345340 B1 to Kaag et al., hereinafter Kaag.

Li does not disclose transferring data or receiving commands or signals. The Kaag does not solve the lack of this element.

Further, Kaag relates to applications that control electronic networks e.g. electronic lighting control networks. It is beyond dispute that the Office may only rely on analogous art to support an obviousness rejection. *Innovation Toys, LLC, v. MGA Entertainment, Inc.*, No. 2010-1290, slip op. at 12 (Fed. Cir. 2011); *In re Bigio*, 381 F.3d 1320, 1325 (Fed. Cir. 2004); *In re Clay*, 966 F.2d 656, 658 (Fed. Cir. 1992). And, while the scope of analogous prior art may sometimes be wide, the Federal Circuit has confirmed that it is not without limit. *See In re Klein*, 647 F.3d 1343 (Fed. Cir. 2011) (reversing the BPAI's judgment of obviousness after concluding that no less than five prior art references relied upon by the BPAI were non-analogous).

The test for analogous art is very specific. Art is non-analogous unless it is: (1) from the same field of endeavor as the claimed invention; or (2) reasonably pertinent to the particular problem faced by the inventor. *In re Bigio*, 381 F.3d at 1325; *In re Wood and Eversole*, 599 F.2d 1032, 1036 (CCPA 1979). Thus, an art citation that is not from the same field of endeavor as a claimed invention MUST be "reasonably pertinent" to the problem addressed by the inventor. Art is "reasonably pertinent" when it would "logically commend itself" to an inventor's attention

in considering his problem. *In re Icon Health and Fitness, Inc.*, 496 F.3d 1374, 1379-80 (Fed. Cir. 2007)(citing *In re Clay*, 966 F.2d 656, 658-59 (Fed. Cir. 1992)). *See also* MPEP § 2141.01(a). Conversely, when art is directed to a different purpose than a claimed invention, an inventor would have less motivation or occasion to consider it. *See In re Clay*, 966 F.2d at 658-59.

The Applicant contends that Kaag electrical prior art patent is not analogous and not a proper relevant art as electricity and water (water meter) don't mix in the physical world. Even in the low voltage (3-12 volts DC) power source of the water meter's electrical circuitry, there is a need to be isolated from water from the electrical circuitry (coated PCB) to function properly. It would not be reasonably pertinent of the Applicant attention in considering the problem. As a POSITA, Applicant contends that the Kaag is not a valid prior art reference.

27th day of October 2025.

Respectfully submitted,
/Michael E. Klicpera/
Attorney for Applicant
Registration No. 38,044

UNITED STATES
PATENT AND TRADEMARK OFFICEP.O. Box 1450
Alexandria, VA 22313 - 1450
www.uspto.gov

ELECTRONIC PAYMENT RECEIPT

APPLICATION #
17/981,454RECEIPT DATE / TIME
10/27/2025 11:39:34 PM Z ETATTORNEY DOCKET #
71002.01

Title of Invention

Water Meter and Leak Detection System

Application Information

APPLICATION TYPE Utility - Nonprovisional Application
under 35 USC 111(a)

PATENT # -

CONFIRMATION # 1349

FILED BY Michael Klicpera

PATENT CENTER # 72928191

AUTHORIZED BY -

CUSTOMER # 22509

FILING DATE 11/06/2022

CORRESPONDENCE
ADDRESS -FIRST NAMED
INVENTOR Michael Edward Klicpera

Payment Information

PAYMENT METHOD
CARD / 2640PAYMENT TRANSACTION ID
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Michael Klicpera

FEE CODE	DESCRIPTION	ITEM PRICE(\$)	QUANTITY	ITEM TOTAL(\$)
2253	EXTENSION FOR RESPONSE WITHIN THIRD MONTH, EXCEPT PROVISIONAL APPLICATIONS	636.00	1	636.00
2801	REQUEST FOR CONTINUED EXAMINATION (RCE) - 1ST REQUEST (SEE 37 CFR 1.114)	600.00	1	600.00
TOTAL AMOUNT:				\$1,236.00

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement

Receipt will establish the filing date of the application

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

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Request for Continued Examination (RCE) Transmittal

Address to:
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P.O. Box 1450
Alexandria, VA 22313-1450

Application Number	17/981,454
Filing Date	16Nov2022
First Named Inventor	KLICPERA, Michael
Art Unit	2863
Examiner Name	VON WALD, Eric
Attorney Docket Number	71002/01

This is a Request for Continued Examination (RCE) under 37 CFR 1.114 of the above-identified application.

Request for Continued Examination (RCE) practice under 37 CFR 1.114 does not apply to any utility or plant application filed prior to June 8, 1995, or to any design application. See Instruction Sheet for RCEs (not to be submitted to the USPTO) on page 2.

- Submission required under 37 CFR 1.114** Note: If the RCE is proper, any previously filed unentered amendments and amendments enclosed with the RCE will be entered in the order in which they were filed unless applicant instructs otherwise. If applicant does not wish to have any previously filed unentered amendment(s) entered, applicant must request non-entry of such amendment(s).

 - ☐ Previously submitted. If a final Office action is outstanding, any amendments filed after the final Office action may be considered as a submission even if this box is not checked.
 - ☐ Consider the arguments in the Appeal Brief or Reply Brief previously filed on _____
 - ☐ Other _____
 - ☒ Enclosed
 - ☒ Amendment/Reply
 - ☐ Affidavit(s)/ Declaration(s)
 - ☐ Information Disclosure Statement (IDS)
 - ☐ Other _____
- Miscellaneous**

 - ☐ Suspension of action on the above-identified application is requested under 37 CFR 1.103(c) for a period of _____ months. (Period of suspension shall not exceed 3 months; Fee under 37 CFR 1.17(i) required)
 - ☐ Other _____
- Fees** The RCE fee under 37 CFR 1.17(e) is required by 37 CFR 1.114 when the RCE is filed.

The Director is hereby authorized to charge the following fees, any underpayment of fees, or credit any overpayments, to Deposit Account No. _____.

 - ☒ RCE fee required under 37 CFR 1.17(e)
 - ☒ Extension of time fee (37 CFR 1.136 and 1.17)
 - ☐ Other _____
 - ☐ Check in the amount of \$ _____ enclosed
 - ☐ Payment by credit card (Form PTO-2038 enclosed)
 - ☐ Payment by USPTO patent electronic filing system.

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED

Signature	/Michael E. Klicpera/	Date	27Oct2025
Name (Print/Type)	Michael E. Klicpera	Registration No.	38044

CERTIFICATE OF MAILING OR TRANSMISSION

I hereby certify that this correspondence is transmitted by the USPTO patent electronic filing system, or by facsimile to (571) 273-8300, to the USPTO, or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Mail Stop RCE, Commissioner for Patents, P. O. Box 1450, Alexandria, VA 22313-1450, on the date shown below.

Signature	/Michael E. Klicpera/
Name (Print/Type)	Michael E. Klicpera
Date	27OCT2025

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Instruction Sheet for RCEs

(not to be submitted to the USPTO)

NOTES:

An RCE is not a new application, and filing an RCE will not result in an application being accorded a new filing date.

Filing Qualifications:

The application must be a utility or plant application filed on or after June 8, 1995. The application cannot be a provisional application, a utility or plant application filed before June 8, 1995, a design application, or a patent under reexamination. See 37 CFR 1.114(e).

Filing Requirements:

Prosecution in the application must be closed. Prosecution is closed if the application is under appeal, or the last Office action is a final action, a notice of allowance, or an action that otherwise closes prosecution in the application (e.g., an Office action under *Ex parte Quayle*). See 37 CFR 1.114(b).

A submission and a fee are required at the time the RCE is filed. If reply to an Office action under 35 U.S.C. 132 is outstanding (e.g., the application is under final rejection), the submission must meet the reply requirements of 37 CFR 1.111. If there is no outstanding Office action, the submission can be an information disclosure statement, an amendment, new arguments, or new evidence. See 37 CFR 1.114(c). The submission may be a previously filed amendment (e.g., an amendment after final rejection).

WARNINGS:

Request for Suspension of Action:

All RCE filing requirements must be met before suspension of action is granted. A request for a suspension of action under 37 CFR 1.103(c) does not satisfy the submission requirement and does not permit the filing of the required submission to be suspended.

Improper RCE will NOT toll Any Time Period:

Before Appeal - If the RCE is improper (e.g., prosecution in the application is not closed or the submission or fee has not been filed) and the application is not under appeal, the time period set forth in the last Office action will continue to run and the application will be abandoned after the statutory time period has expired if a reply to the Office action is not timely filed. No additional time will be given to correct the improper RCE.

Under Appeal - If the RCE is improper (e.g., the submission or the fee has not been filed) and the application is under appeal, the improper RCE is effective to withdraw the appeal. Withdrawal of the appeal results in the allowance or abandonment of the application depending on the status of the claims. If there are no allowed claims, the application is abandoned. If there is at least one allowed claim, the application will be passed to issue on the allowed claim(s). See MPEP 1215.01.

See MPEP 706.07(h) for further information on the RCE practice.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. The United States Patent and Trademark Office (USPTO) collects the information in this record under authority of 35 U.S.C. 2. The USPTO's system of records is used to manage all applicant and owner information including name, citizenship, residence, post office address, and other information with respect to inventors and their legal representatives pertaining to the applicant's/owner's activities in connection with the invention for which a patent is sought or has been granted. The applicable Privacy Act System of Records Notice for the information collected in this form is COMMERCE/PAT-TM-7 Patent Application Files, available in the Federal Register at 78 FR 19243 (March 29, 2013), <https://www.govinfo.gov/content/pkg/FR-2013-03-29/pdf/2013-07341.pdf>.

Routine uses of the information in this record may include disclosure to: 1) law enforcement, in the event that the system of records indicates a violation or potential violation of law; 2) a federal, state, local, or international agency, in response to its request; 3) a contractor of the USPTO having need for the information in order to perform a contract; 4) the Department of Justice for determination of whether the Freedom of Information Act (FOIA) requires disclosure of the record; 5) a Member of Congress submitting a request involving an individual to whom the record pertains, when the individual has requested the Member's assistance with respect to the subject matter of the record; 6) a court, magistrate, or administrative tribunal, in the course of presenting evidence, including disclosures to opposing counsel in the course of settlement negotiations; 7) the Administrator, General Services Administration (GSA), or their designee, during an inspection of records conducted by GSA under authority of 44 U.S.C. 2904 and 2906, in accordance with the GSA regulations and any other relevant (i.e., GSA or Commerce) directive, where such disclosure shall not be used to make determinations about individuals; 8) another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)); 9) the Office of Personnel Management (OPM) for personnel research purposes; and 10) the Office of Management and Budget (OMB) for legislative coordination and clearance.

If you do not furnish the information requested on this form, the USPTO may not be able to process and/or examine your submission, which may result in termination of proceedings, abandonment of the application, and/or expiration of the patent.

EXHIBIT B

UNITED STATES
PATENT AND TRADEMARK OFFICEP.O. Box 1450
Alexandria, VA 22313 - 1450
www.uspto.gov

ELECTRONIC ACKNOWLEDGEMENT RECEIPT

APPLICATION #
17/981,454RECEIPT DATE / TIME
10/21/2025 07:20:39 AM Z ETATTORNEY DOCKET #
71002.01

Title of Invention

Water Meter and Leak Detection System

Application Information

APPLICATION TYPE	Utility - Nonprovisional Application under 35 USC 111(a)	PATENT #	-
CONFIRMATION #	1349	FILED BY	Michael Klicpera
PATENT CENTER #	72800161	FILING DATE	11/06/2022
CUSTOMER #	22509	FIRST NAMED INVENTOR	Michael Edward Klicpera
CORRESPONDENCE ADDRESS	-	AUTHORIZED BY	-

Documents

TOTAL DOCUMENTS: 1

DOCUMENT	PAGES	DESCRIPTION	SIZE (KB)
aia00081.pdf	2	Power of Attorney	351 KB

Digest

DOCUMENT	MESSAGE DIGEST(SHA-512)
aia00081.pdf	00F1420A4C78966A9648351CAE4DD156EA7F8E796698E37A8 FFDCE08A4D61541154BF68EBD98F796525672CD56ACF54058 744544C09BC04292E568D9589503AD

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

POWER OF ATTORNEY TO ONE OR MORE OF THE JOINT INVENTORS AND CHANGE OF CORRESPONDENCE ADDRESS	Application Number	17/981454
	Filing Date	11-16-2022
	First Named Inventor	KLUCPERA, Michael
	Art Unit	2863
	Examiner Name	VON WALD, Eric
	Title	Water Meter and Leak Detection Systeme

NOTE: This form may be filed by *pro se* inventors (*i.e.*, prosecuting the application without a registered patent practitioner) who are identified as the Applicant in the above-identified application. For a Power of Attorney to one or more registered patent practitioners, see form PTO/AIA/82.

I hereby revoke all previous powers of attorney given in the above-identified application.

☐ I hereby appoint the following joint inventor(s) to prosecute the application identified above, and to transact all business in the United States Patent and Trademark Office connected therewith:

Please recognize or change the correspondence address for the above-identified application to:

☐ The address associated with Customer Number. (if applicable):
-To Request A Customer Number see form PTO/SB/124

22509

OR

Individual Name			
Address			
City	State	Zip	
Country			
Telephone	Email		

I am the Inventor.

SIGNATURE of Inventor

Signature /Michael E. Klicpera/

Date 10-21-2025

Name Michael E. Klicpera

Telephone (619) 980-8680

NOTE: Signatures of all the inventors are required. Submit multiple forms if more than one signature is required, see below*. See 37 CFR 1.4 for signature requirements and certifications.

☒ *Total of 1 forms are submitted.

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If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

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Additional Uses

Additional USPTO uses of the information in this record may include disclosure to: 1) the International Bureau of the World Intellectual Property Organization, if the record is related to an international application filed under the Patent Cooperation Treaty; 2) the public i) after publication of the application pursuant to 35 U.S.C. 122(b), ii) after issuance of a patent pursuant to 35 U.S.C. 151, iii) if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections, or an issued patent, or iv) without publication of the application or patent under the specific circumstances provided for by 37 CFR 1.14(a)(1)(v)-(vii); and/or 3) the National Archives and Records Administration, for inspection of records.



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 United States Patent and Trademark Office
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 www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
17/981,454	11/06/2022	Michael Edward Klicpera	71002.01

22509
 Patent Technology, Inc.
 Michael Edward Klicpera
 PO BOX 4750
 INCLINE VILLAGE, NV 89450-4750

CONFIRMATION NO. 1349
POA ACCEPTANCE LETTER



OC00000096346011

Date Mailed: 10/23/2025

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 10/21/2025.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at (571) 272-4000 or (571) 272-4200 or 1-888-786-0101.

/atesfai/